DEC 13 1929

STATISTICAL BULLETIN
Metropolitan Life Insurance Co.

VOL. X NOVEMBER, 1929 No. 11

AUTOMOBILE FATALITIES IN 1929 REACH NEW MAXIMUM

Up to the end of October, this year, no less than 3,079 Industrial policyholders of the Metropolitan Life Insurance Company had lost their lives in automobile accidents. The cumulative deathrate for the ten months was 19.5 per 100,000, by far the highest ever recorded for the corresponding period of any year. The mortality rate has increased by nearly 11 per cent over last year. The indications now are that the automobile deathrate for 1929 among these millions of the industrial populations of the United States and Canada will be close to double that for the first year of the current decade and about nine times as high as it was in 1911.

What has happened among the insured conforms closely to developments in the general population of the cities of the country. This is shown in a statement recently given out by the UNITED STATES CENSUS BUREAU showing that, in seventy-eight cities, more automobile fatalities occurred during the four weeks ended November 2d than during any similar period since that Bureau began to collect data on fatal motor vehicle accidents. There were actually 840 deaths, and the closest approach to this figure was 771 for the four-week period ended December 29, 1928. Figures for fifty-two weeks ending November 2d, and giving deathrates based on deaths from accidents that *actually occurred in the various cities*, show the following recorded rates of 25 or more per 100,000 of population: Youngstown, Ohio, 38.0; Camden, N. J., 33.3; Canton, Ohio, 32.6; Salt Lake City, Utah, 28.3; Buffalo, 26.2; Cleveland, 26.1; Atlanta, 25.6; Detroit and Wilmington, Del., 25.0.

All available data show that the automobile deathrate is increasing in substantially all sections of the country and among all elements of the population. The above figures show this conclusively for the urban population, for only twenty-four of these seventy-eight had more or less lower rates in 1929 than in 1928. While 1929 mortality data

are not available at this writing for the rural population, the tendency there has also been upward for years, and there is no reason to expect a change this year. The extensive road building program all over the country, by opening up new highways in rural areas, should accentuate the hazard, if anything. The increased mortality has affected every age period and extended to both sexes and to both the white and colored races. In Canada, where automobile fatalities were a relatively minor item a few years ago, the deathrate has also been rising sharply. Up to October 31st of this year, the mortality from motor vehicle accidents in that country was 25 per cent higher than during the same period only a year ago.

One seeks in vain for a single encouraging element in the automobile accident situation. This year, up to the end of October, one-third of all the accidental deaths among 19,000,000 Metropolitan Industrial policyholders were due to this cause. *It is the only type of accidental death which is now increasing in this country.* Among the insured it has caused as many deaths this year as the four principal epidemic diseases of childhood (measles, scarlet fever, whooping cough and diphtheria) combined. There has been one automobile fatality this year to every four deaths from cancer, to every three from apoplexy and to every seven and one-half from heart disease, the leading cause of death. More than two per cent of all the deaths from all causes are now due to automobile accidents.

Obviously, under present conditions, there can be no thought of encouraging those who would let down the bars of traffic regulation, and thus permit higher speeds than are now allowed on our streets and highways. Speeding is the principal source of automobile fatalities; and if control is to be won over this hazard, it will be through more rather than less regulation.

THE MORTALITY FROM DIABETES IN THE UNITED STATES AND ENGLAND

The continued increase in the deathrate from diabetes in the United States suggests inquiry as to what has happened in other countries. The deathrate from diabetes is considerably higher here than that prevailing in Europe. It is more than 50 per cent higher than the deathrate in England and Wales. This difference exists at every age period and is distinctly greater at the older ages where the level of the deathrate in this country is practically twice as high as in England. The mortality record of American women is particularly bad.

The general *trend* of the diabetes deathrate, however, from 1920 to 1928 has been the same in both this country and in England. The rate was on the increase when insulin was discovered in 1922. In both countries there was a decrease from a former maximum deathrate in 1922 to a minimum in 1924, followed by a gradual rise in the succeeding years. Both countries recorded new maximum deathrates last year.

The increase in the diabetes deathrate in both countries is confined to the older age periods. At the younger ages, up to age forty-five among males and thirty-five among females, there has been a substantial decrease in the deathrate. Between the ages of thirty-five to fifty-four among women, and forty-five to fifty-four among men, the rate has been practically stationary with relatively slight declines. Over age fifty-five, the deathrate has increased among both sexes in both countries and the increase is greater as the higher age periods are reached.

It would seem that the factors underlying the trend in the deathrate in the two countries are the same. These are:

1. Insulin shows its greatest value in the treatment of diabetes at the younger ages. The severity of the disease, which characterizes its course among younger persons, is directly alleviated by this treatment.

2. At the older ages, diet is still by far the most important factor in the treatment of diabetes and although insulin is extensively used in treating these persons, it is of relatively less importance than in the treatment of younger persons.

3. The number of known cases of diabetes is growing, due, in part, to more frequent discovery through routine urine examinations. In England the discovery of cases is probably affected by the numbers who come under the National Health Insurance Law. This number has been largely increased within the last few years by liberalization of this law.

The increase in cases is due in part also to changing food habits. The diet of Americans, particularly, is much too rich and the total intake, as measured in calories, is higher than is needed.

4. More and more, diabetics are surviving to advanced ages, and are dying, when not in coma, of the degenerative diseases that characterize this period of life. These deaths are, however, charged, in most cases, to diabetes.

5. In the use of insulin itself, there are two factors operating against its success. The first of these is a false sense of security which insulin gives to diabetics; the second, aversion to the continual hypo-

dermic injections, which so far, is the only successful method of its administration. Undoubtedly a successful substitute for insulin which could be taken by mouth would prove a great boon in the treatment of diabetes.

HOW FATAL BURNS ORIGINATE

Burns accounted for seven per cent of the total of 93,000 accidental deaths in the United States during 1927. Until very recently, no facts have been available on the origin of these injuries, the extent to which they arise from hazards in industry, in the home or elsewhere. For the years 1926 to 1928, the Metropolitan Life Insurance Company has prepared data from the records of its Industrial Department which show that two-thirds of the fatal burns occur in the home, eight per cent in the course of occupation and five per cent in public places. According to the specific agencies producing these fatal burns, the facts were as follows:

Fatal Accidental Burns According to Means and Origin of Injury. Metropolitan Life Insurance Company. Industrial Department, 1926-1928.

Agency of Burn	By Agency		By Origin of Hazard, Percentage Distribution				
	Number	Per cent of Total	Total	Industrial	Public	Domestic	Miscellaneous
Total Burns	3,011	100.0	100.0	7.6	4.8	66.8	20.8
Bonfires	117	3.9	100.0	.9	64.1	26.5	8.5
Corrosive substances	21	.7	100.0	33.3	4.8	52.4	9.5
Lamps	36	1.2	100.0	5.6	2.8	88.8	2.8
Matches	270	9.0	100.0	.4	3.3	76.3	20.0
Stoves and grates	747	24.8	100.0	2.1	.4	96.7	.8
Scalds	710	23.6	100.0	4.5	.4	92.0	3.1
Other specified means	557	18.5	100.0	25.1	7.7	44.5	22.7
Means not specified	553	18.3	100.0	5.2	2.0	19.5	73.3

From these facts it is clear that the toll of mortality from burns may be charged largely against hazards arising in the home, and that in the home the chief agencies involved are hot water, the kitchen stove and the heating grate, and matches. These factors together account for 81 per cent of the deaths from burns in the home. And perhaps most significant, more than two-thirds of the deaths resulting through these three means alone were of children under fifteen years of age! Among women above twenty-five years of age, 58 per cent of the deaths from burns were from stoves and grates and from scalds.

EXPECTATION OF LIFE IN 1928 AMONG INDUSTRIAL POLICYHOLDERS

The results of a computation of the expectation of life in 1928 at several ages for the Industrial policyholders of the Metropolitan Life Insurance Company have recently become available, and are presented here, together with the corresponding figures for 1927. In studying these figures, it must be borne in mind that 1927 was an exceptionally good health year—almost a record year. Nineteen twenty-eight, by comparison, appears just a little less good. For the total Industrial Department there has been a drop of just about one-half of a year in the expectation of life at birth, namely, from 56.42 in 1927 to 55.88 in 1928. At ages one year and over, the margin of difference between the figure for 1927 and that for 1928 is small. At age five, it is about one-quarter of a year. For the population represented by our Industrial policyholders, data by color and sex can be given only from age ten on. Here the greatest differences between 1927 and 1928 are shown by colored males with about one-half a year's drop at ages ten to twenty-five years inclusive. At the higher ages the difference naturally diminishes. The case of colored females is about the same but with a slightly smaller difference at age ten and a slightly larger difference at ages thirty to fifty.

The white males show very little decline (about seven weeks) at age ten, and negligible gains from ages forty-five up. In the case of white females there is a very little decline, the outstanding points being a fall of .35 of a year at age thirty-five; .42 of a year at age sixty and .38 of a year at age sixty-five. The following table shows the expectation of life among our Industrial policyholders from 1911 to 1928.

Expectation of Life at Birth, Metropolitan Life Insurance Company. Industrial Department 1911 to 1928

Year	Expectation in Years
1928	55.88
1927	56.42
1926	55.02
1925	55.51
1924	55.62
1923	54.55
1922	55.04
1921	55.08
1919-1920	51.14
1911-1912	46.63
Gain 1928 Since 1911-1912	9.25

Applying, as on previous occasions, the years 1911-1912 as a standard of comparison, we note that in the expectation of life at birth there has been a total gain, up to 1928, of nine and a quarter years. Thus in less than two decades of calendar years there has been added almost an entire decade of years to the mean length of life of the Industrial policyholders of the Company. We shall probably have to accept the fact that henceforth such rapid gains will no longer be possible; prolongation of life has been effected by eliminating many *preventable* deaths. But the inexorable fact remains that there is a natural term set to human life by biological causes wholly beyond our control. When all has been done that is in our power, to improve sanitation and to promote an intelligent attitude toward the problems of the individual life, our task, in life extension, is done, and we may reap the result with satisfaction; it would be vain to complain because an upper limit is set to our ultimate achievements. As for any plans of eugenists to alter fundamentally our biological heritage, and lend us new leases of longevity, any realization of such plans as this must at best be reserved for a rather distant future date.

Expectation of Life at Selected Ages Above 10 Years. By Color and Sex. Metropolitan Life Insurance Company Industrial Department, 1927 and 1928.

Age	Total Industrial Department		White				Colored			
			Males		Females		Males		Females	
	1928	1927	1928	1927	1928	1927	1928	1927	1928	1927
10	52.34	52.62	51.74	51.88	55.10	55.32	44.48	44.99	46.00	46.34
15	47.80	48.09	47.22	47.34	50.42	50.71	40.24	40.81	41.84	42.16
20	43.52	43.79	42.83	42.93	46.03	46.33	36.51	37.08	38.36	38.64
25	39.45	39.73	38.58	38.66	41.89	42.18	33.08	33.60	35.06	35.46
30	35.41	35.69	34.36	34.44	37.71	38.05	29.64	30.05	31.61	32.15
35	31.38	31.65	30.18	30.25	33.52	33.87	26.24	26.59	28.23	28.77
40	27.49	27.73	26.21	26.26	29.41	29.74	22.99	23.33	24.97	25.46
45	23.77	23.99	22.50	22.49	25.42	25.73	19.94	20.24	21.84	22.32
50	20.23	20.41	19.04	18.93	21.54	21.88	17.06	17.31	18.87	19.26
55	16.86	17.07	15.80	15.77	17.86	18.23	14.42	14.58	16.08	16.32
60	13.77	13.99	12.87	12.91	14.48	14.90	12.09	12.00	13.51	13.75
65	11.08	11.21	10.39	10.25	11.54	11.92	10.12	9.87	11.30	11.48
70	8.78	8.82	8.25	8.03	9.10	9.39	8.34	8.15	9.42	9.50

THE CONFERENCE FOR THE REVISION OF THE INTERNATIONAL CLASSIFICATION OF CAUSES OF DEATH

The fourth decennial Conference for the Revision of the International Classification of Causes of Death was held in Paris, October 16th to 19th. Thirty-four countries were represented, and, in addition, delegates attended from the INTERNATIONAL LABOR BUREAU, the INTERNATIONAL INSTITUTE OF STATISTICS, THE LEAGUE OF RED CROSS SOCIETIES, the INTERNATIONAL BUREAU OF PUBLIC HYGIENE and the HYGIENE SECTION OF THE LEAGUE OF NATIONS.

The more important developments of this Conference may be summarized as follows:

1. For the first time serious consideration was given to the troublesome subject of classifying jointly reported causes of death. Hitherto, these international gatherings had limited themselves to a system for classifying singly reported causes of death, although in some countries from twenty-five to fifty per cent of the death certificates contain more than one cause of death. This year the Conference recognized that in the United States the codification of joint causes has been pursued with exceptional thoroughness and, accordingly, the United States was invited to take the necessary steps toward collecting and comparing all existing codes relating to joint causes, with a view to determining how to obtain more uniform methods by the several countries.

2. Important changes were made in the classification of deaths from cancer. New rubriques were added to provide for separate tabulation of cancers of the respiratory system and the male genital organs. Cancers of the pharynx will henceforth be classified along with those of the buccal cavity, instead of being associated with growths in the esophagus, stomach, liver and gall-bladder, as formerly. Cancers of the duodenum will be studied along with those of the stomach, liver and biliary passages.

3. Important changes were also made in connection with heart and circulatory diseases. Organizations which have been concentrating on the control of these conditions (which have become the leading causes of death in most countries) have demanded that there be entire separation of the valvular and muscular heart diseases in the mortality statistics. This has now been agreed upon. Gangrene, which has hitherto been allocated to the diseases of the skin and cellular tissue, has now been transferred to the circulatory disease class.

4. A fundamental change was made in connection with diseases of pregnancy, childbirth and the puerperal state. Hitherto, deaths from puerperal septicemia accompanying abortions or miscarriages were

classified as due to puerperal septic infection, with the result that the statistics did not show the number of deaths in which abortions were concerned. From now on such deaths will be classified as due to abortion, but will, nevertheless, continue to be distinguished from all other deaths from abortion, so that it will be possible to know the total number in which puerperal septicemia was concerned. This is necessary in order that the mortality from puerperal septicemia, a "controllable disease," may still be compared with the deathrates of former years.

5. The classification of fatal accidents received much attention by the Commission, largely through the insistence of the American delegation. While the Conference did not agree to make obligatory upon the signatory countries a classification of accidents incorporating all of the refinements requested, it did take cognizance of the fact that the modern safety movement should have more data than are now available concerning fatal accidents. As a result it is hoped that such countries as have the necessary statistical equipment will, henceforth, incorporate in their mortality statistics much more detailed information concerning fatal accidents than they have included hitherto.

It is gratifying to record that the American delegation of seven played an important part at the recent Paris Conference. In no country has there been as much study and preparation for it as in the United States. Public health workers are particularly indebted to the COMMITTEE ON ACCURACY OF CERTIFIED CAUSES OF DEATH, of the AMERICAN PUBLIC HEALTH ASSOCIATION, which has been concentrating on this subject continuously since 1915, and to the NATIONAL SAFETY COUNCIL, which took the initiative in studying the causes concerned with accidents and presented a well conceived plan for consideration.

HEALTH RECORD FOR OCTOBER, 1929

Satisfactory health conditions continued to prevail during October among the American and Canadian industrial populations. At the end of the month, the cumulative deathrate for the year was 9.3 per 1,000, or substantially the same as for the same period of last year (9.2). Health conditions have been gradually readjusting themselves since the influenza outbreak of last winter; and there is now every prospect that the year will register a deathrate as low or even a little lower than that for 1928. That a very considerable improvement was necessary to bring this about is evidenced by the fact that, at the end

of the first quarter, the mortality rate was 17.6 per cent in excess of that for the corresponding period of 1928. Better conditions have been maintained for every month since February of this year, with a single exception.

The year-to-date deathrate, at the end of October, among policyholders in the section west of the Rocky Mountains was 6.8 per 1,000, as compared with 6.7 for the same period of 1928. For the rest of the United States, the corresponding figures were 9.5 and 9.4, while in Canada, they were 9.2 and 9.0.

Comparison with October, 1928, shows lower deathrates this year for typhoid fever, scarlet fever, diphtheria, tuberculosis, cancer, organic heart disease, pneumonia and other respiratory conditions, diarrheal complaints and puerperal diseases. There was no significant increase for any disease. Suicides and accidents increased slightly, homicides appreciably and automobile accidents sharply.

Three diseases of major public health interest—namely, diphtheria, tuberculosis and puerperal conditions—continue to constitute the outstandingly favorable health items of 1929. At the end of October the reduction in the diphtheria mortality rate as compared with last year was 15.6 per cent; for tuberculosis, it was 5.8 per cent., and for the puerperal state, 7.0 per cent. It is now assured, almost beyond peradventure, that a new minimum for each will be established this year. The large increase in mortality for diabetes, shown during the first half of 1929, has been gradually decreasing during the subsequent months, and the cumulative deathrate is now only slightly in excess of that for last year at this time. It becomes more and more evident that last winter's influenza outbreak hastened the deaths of many diabetics.

The automobile accident record is extremely unsatisfactory, as is pointed out in greater detail in another part of this BULLETIN.

The deathrate in the general population of the large cities of the United States in October was 11.6 per 1,000, as compared with 10.7 in September and 11.8 in October, 1928. Diphtheria, influenza, measles, scarlet fever and smallpox were more prevalent in October than in September, but there were fewer cases of poliomyelitis and typhoid fever. Comparison with October, 1928, shows more cases of diphtheria, influenza, poliomyelitis and typhoid fever, but lower incidence of measles, scarlet fever and smallpox.

Reports from thirty-four states show a sixty-six per cent increase in diphtheria cases in October, as compared with September, but this is a seasonal increase which we must expect. The most noteworthy rises

were in Ohio, Minnesota, Missouri, West Virginia, Texas and California. Measles cases almost doubled in twenty states and the same is true of scarlet fever in thirty-nine states. These increases, together with the greater prevalence of influenza, are usual at this time of the year.

While there were fewer cases of smallpox than in October a year ago, there was a large increase as compared with September of this year. New York reported seven cases in September and 61 in October. For Illinois, corresponding figures were 60 and 224; for Michigan, 70 and 125; for South Dakota, 22 and 62; for Colorado, 11 and 38, and for Washington, 45 and 113. Outbreaks during October were reported from six Indiana communities.

The most noteworthy health activity during the month was the sending of five field workers of the UNITED STATES PUBLIC HEALTH SERVICE to Ellicottville, Cattaraugus County, New York, for a morbidity survey of a rural population of 5,000. It is planned to record births, deaths and cases of communicable diseases for a type of population where facts have hitherto not been available. An epidemiological study of tuberculosis in this area is also proposed. A similar survey may be made for Syracuse in order to secure comparative data for a typical urban group.

The following table shows the mortality among the Industrial policyholders for October, 1929; September, 1929 and October, 1928, together with the cumulative rate for the first ten months of each year.

METROPOLITAN LIFE INSURANCE COMPANY

Deathrates* per 100,000 for Principal Causes, Premium-paying Business in Industrial Department (Annual Basis)

MONTHS OF OCTOBER, 1929; SEPTEMBER, 1929, AND OF OCTOBER, 1928

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED*				
	Oct., 1929	Sept., 1929	Oct., 1928	Cumulative January to October	
				1929	1928
TOTAL—ALL CAUSES	836.1	753.1	860.0	933.5	924.2
Typhoid fever	3.6	3.1	4.2	2.3	2.7
Measles	.4	.5	.3	3.2	6.0
Scarlet fever	1.3	1.0	1.8	2.6	2.8
Whooping cough	3.8	4.9	5.0	6.0	5.9
Diphtheria	8.3	4.9	9.6	8.1	9.6
Influenza	9.1	4.3	8.7	45.2	22.7
Tuberculosis (All forms)	79.7	69.2	83.8	87.2	92.6
Tuberculosis of resp'y system	68.9	60.6	73.8	76.9	81.0
Cancer	76.6	73.4	78.2	76.0	75.5
Diabetes mellitus	16.7	13.5	16.0	18.3	17.6
Cerebral hemorrhage	55.5	45.0	52.4	56.8	56.5
Organic diseases of heart	128.1	113.1	132.4	145.5	142.4
Pneumonia (All forms)	53.1	32.9	57.8	89.6	91.1
Other respiratory diseases	10.4	8.7	16.1	12.1	12.9
Diarrhea and enteritis	31.6	45.4	37.9	21.5	25.3
Bright's disease (Chronic nephritis)	66.8	55.4	65.2	68.8	70.8
Puerperal state	10.4	10.8	12.7	13.3	14.3
Suicides	8.4	8.4	8.3	8.5	8.4
Homicides	7.6	5.6	6.6	6.4	6.5
Other external causes (excluding suicides and homicides)	65.7	66.1	64.3	63.5	62.6
Traumatism by automobiles	25.7	22.0	21.8	19.5	17.6
All other causes	199.1	186.8	198.6	198.6	198.1

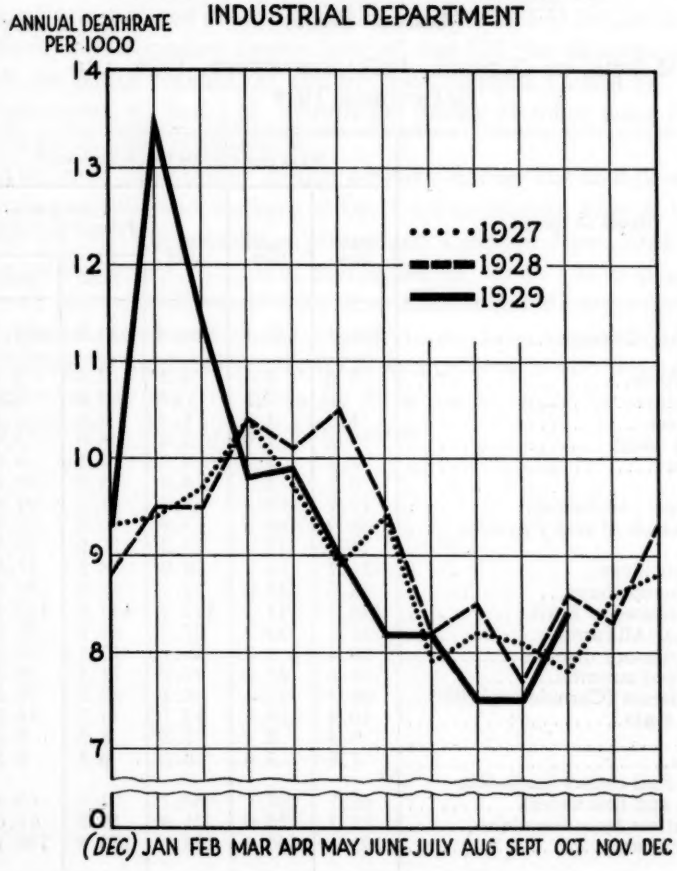
*All figures include infants insured under one year of age.

Correspondence on the subjects discussed in these BULLETINS may be addressed to: The Editor,

STATISTICAL BULLETIN,
Metropolitan Life Insurance Company,
1 Madison Avenue, New York City.

DEATHRATES
FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE CO.
INDUSTRIAL DEPARTMENT



1927	9.4	9.7	10.4	9.7	8.9	9.4	7.9	8.2	8.1	7.8	8.6	8.8
1928*	9.5	9.5	10.4	10.1	10.5	9.5	8.2	8.5	7.7	8.6	8.3	9.3
1929	13.4	11.4	9.8	9.9	9.0	8.2	8.2	7.5	7.5	8.4		

* Rates for 1928 are final

METROPOLITAN LIFE INSURANCE COMPANY PRESS
NEW YORK, U.S.A.
77871